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Healthcare Cost Analysis Action Report

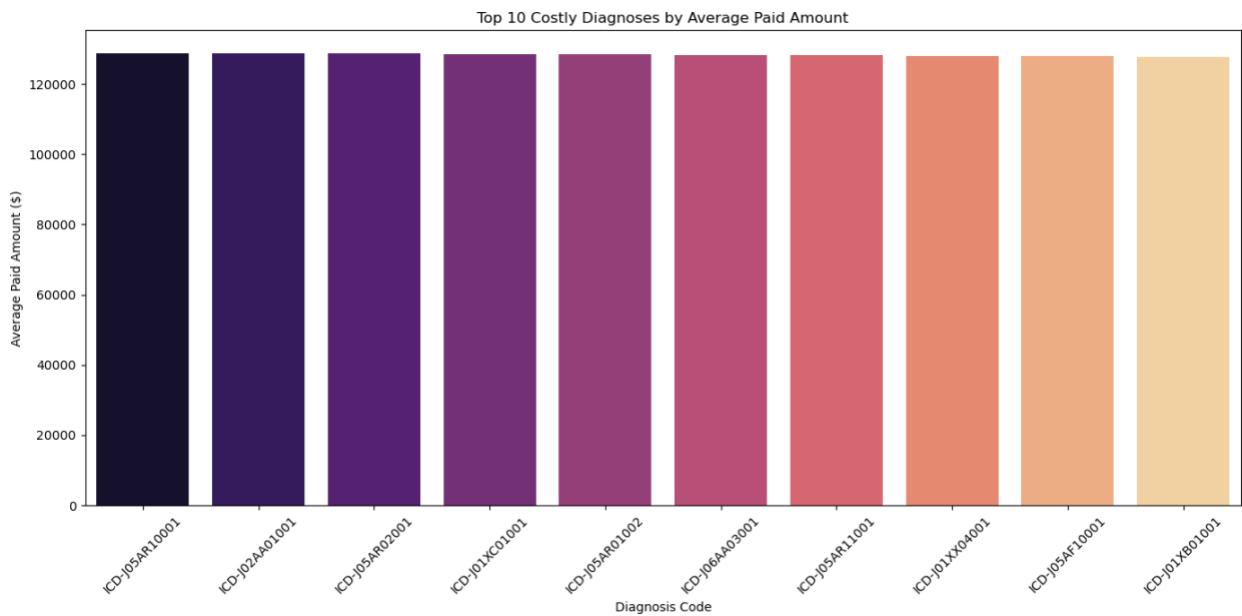
The analysis of healthcare claims data aimed to uncover cost drivers and opportunities for cost reduction. Several insights were gleaned regarding high-cost diagnoses and procedures, cost variations across demographics, potential areas for cost savings, and the least costly medical services.

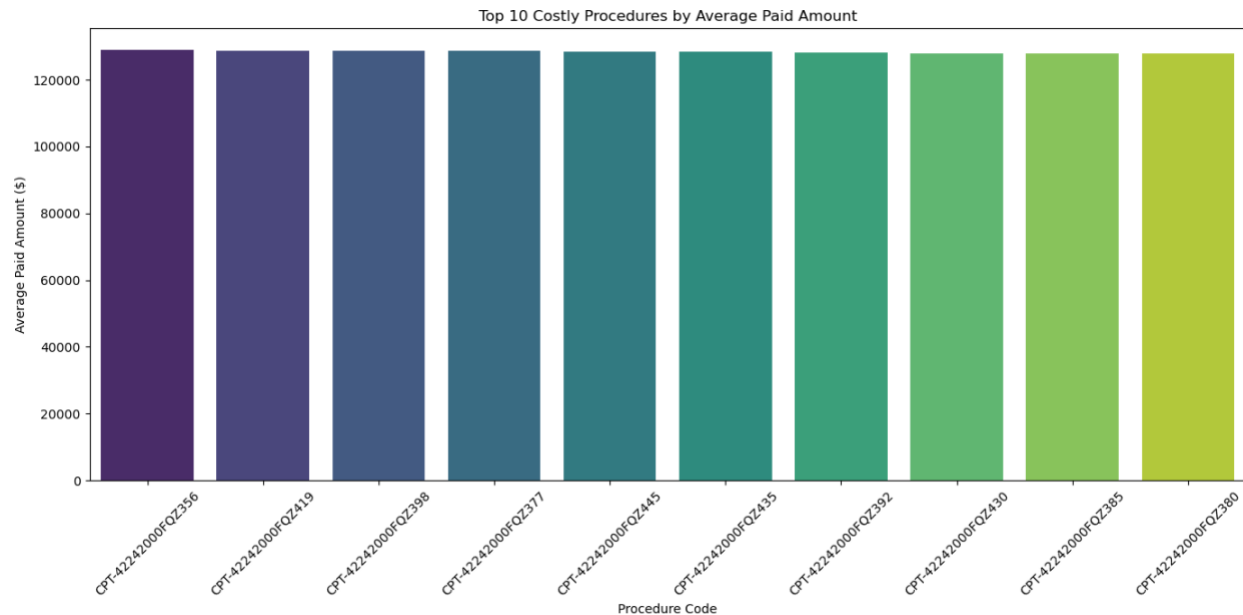
- Objective:** The primary goal was to analyze healthcare claims data to identify areas for cost reduction.
- Methods:** Utilized visualizations like heatmaps, bar charts, and box plots to examine costs by diagnosis, procedure, and demographic variables.

Key Findings:

1. Costly Diagnoses and Procedures:

- Identified specific diagnoses and procedures with the highest average paid amounts, signaling areas for potential cost management.





The bar chart displayed shows the top 10 costly procedures by average paid amount. These procedures are major contributors to overall healthcare costs, pinpointing specific areas where cost management strategies, such as reviewing procedure necessity or negotiating rates, could be beneficial.

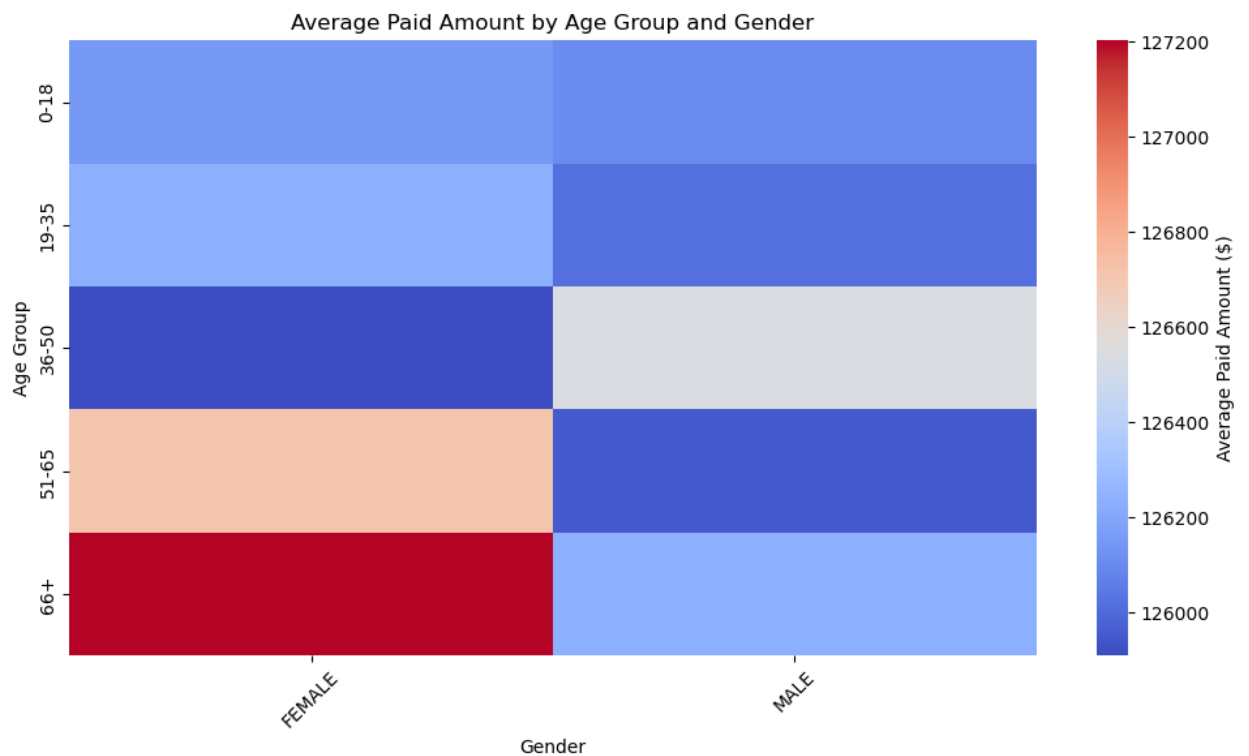
These visualizations answer the question about specific diagnoses or procedures driving high healthcare costs effectively, offering a clear perspective on potential areas for cost containment.

Top 5 High-Cost Claims by Diagnosis and Procedure

1. Diagnosis: ICD-J04AB30001, Procedure: CPT-42242000FQZ418: Average Paid Amount - \$818,092
2. Diagnosis: ICD-J01XE01001, Procedure: CPT-42242000FQZ443: Average Paid Amount - \$732,493
3. Diagnosis: ICD-J05AP01003, Procedure: CPT-42242000FQZ432: Average Paid Amount - \$723,347
4. Diagnosis: ICD-J01XB02001, Procedure: CPT-42242000FQZ368: Average Paid Amount - \$716,089
5. Diagnosis: ICD-J05AE08002, Procedure: CPT-42242000FQZ404: Average Paid Amount - \$715,942

These high-cost claims might indicate outlier cases that require further investigation or could be indicative of areas where disease management programs could be particularly effective.

2. Demographic Variations in Costs:



- Highlighted how costs vary by age and gender. Older age groups (51-65, 66+) tend to incur higher costs.
- Noted that females on average have slightly higher costs than males.

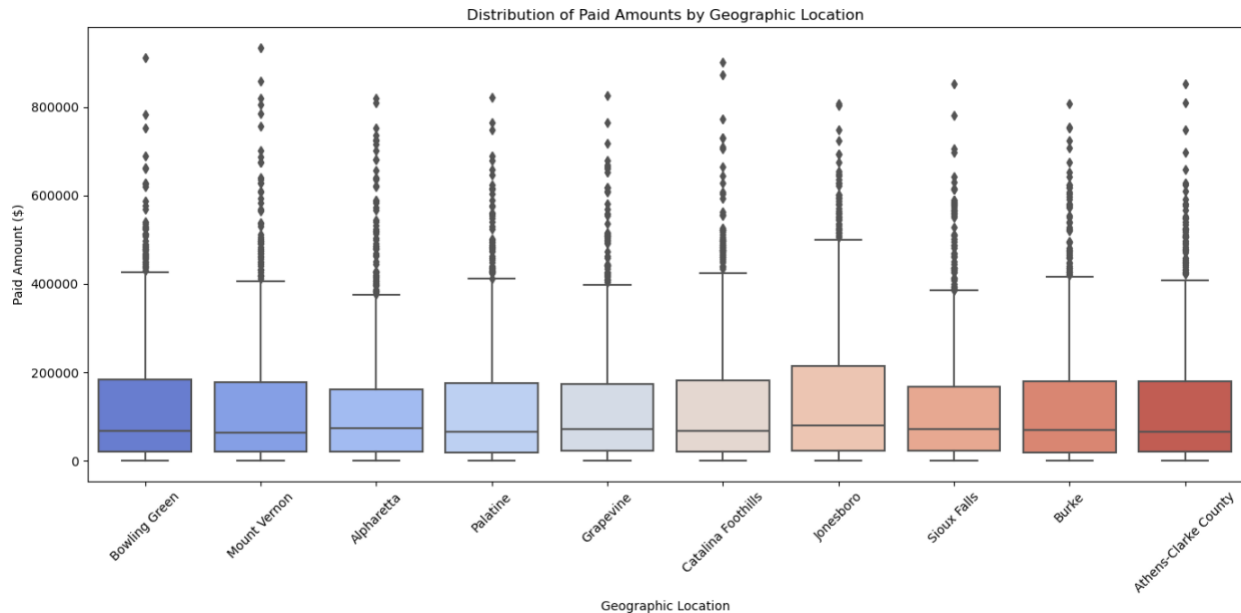
Average Paid Amounts by Gender

- Female: \$126,409

- Male: \$126,255

3. Geographical Cost Disparities:

- Detected significant variations in costs by location, suggesting regional factors or billing practices influencing costs.



4. Facility-Based Cost Variations:

- Determined certain healthcare facilities have higher than average costs, which could indicate opportunities for rate negotiations or billing reviews.

Top 5 Healthcare Facilities by Average Paid Amount

- Mat Haven: Average Paid Amount - \$129,079 (19550 claims)
- North Clairesit Du Grayscloud: Average Paid Amount - \$128,809 (183350 claims)
- Bamphills: Average Paid Amount - \$128,512 (19050 claims)
- Forttown: Average Paid Amount - \$128,436 (17800 claims)
- Soutown: Average Paid Amount - \$128,297 (18900 claims)

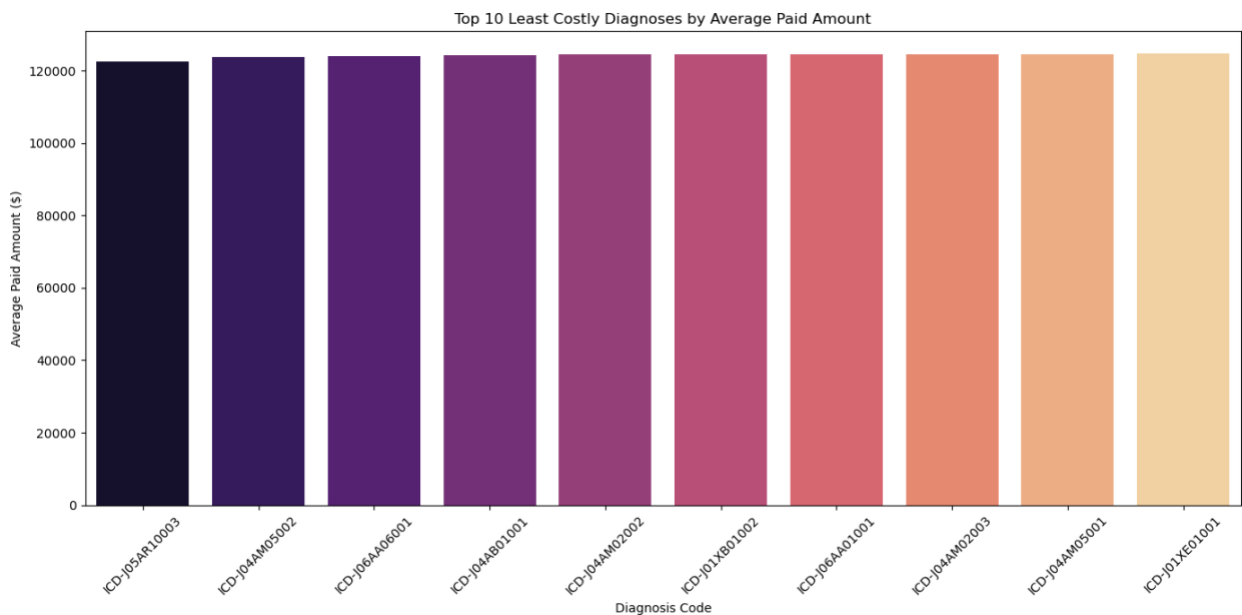
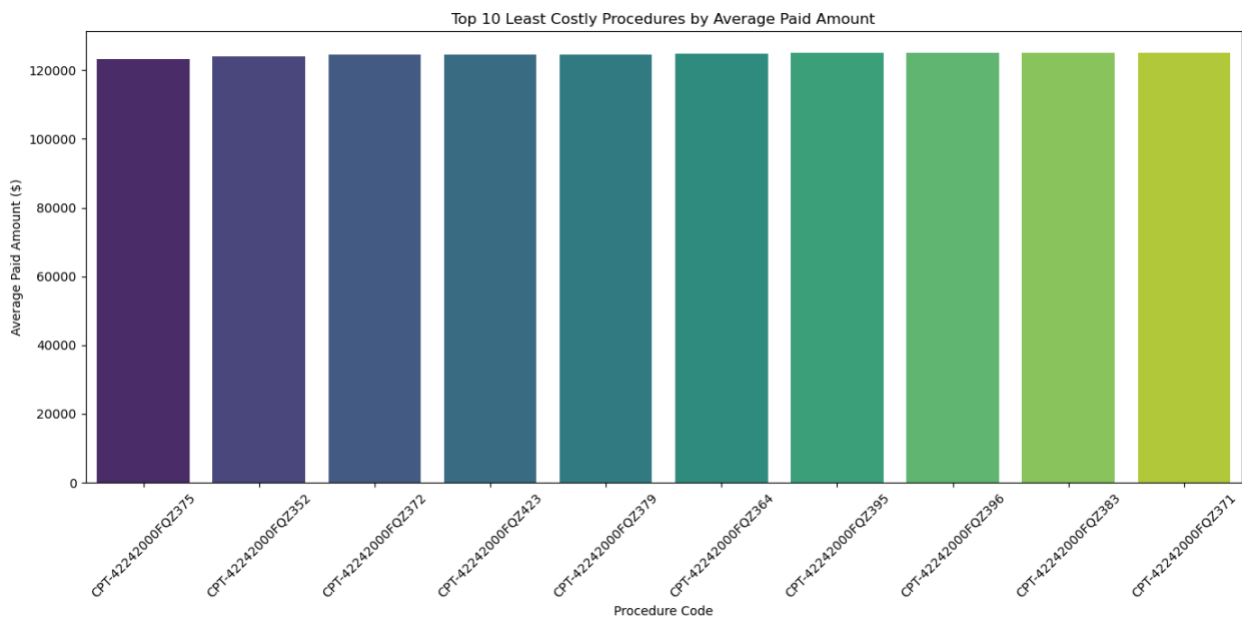
These facilities represent potential targets for cost control negotiations or reviews of their billing practices, given their high average costs.

5. Least Costly Diagnoses and Procedures:

- Identified least costly diagnoses and procedures, which could provide insights into areas with efficient cost management

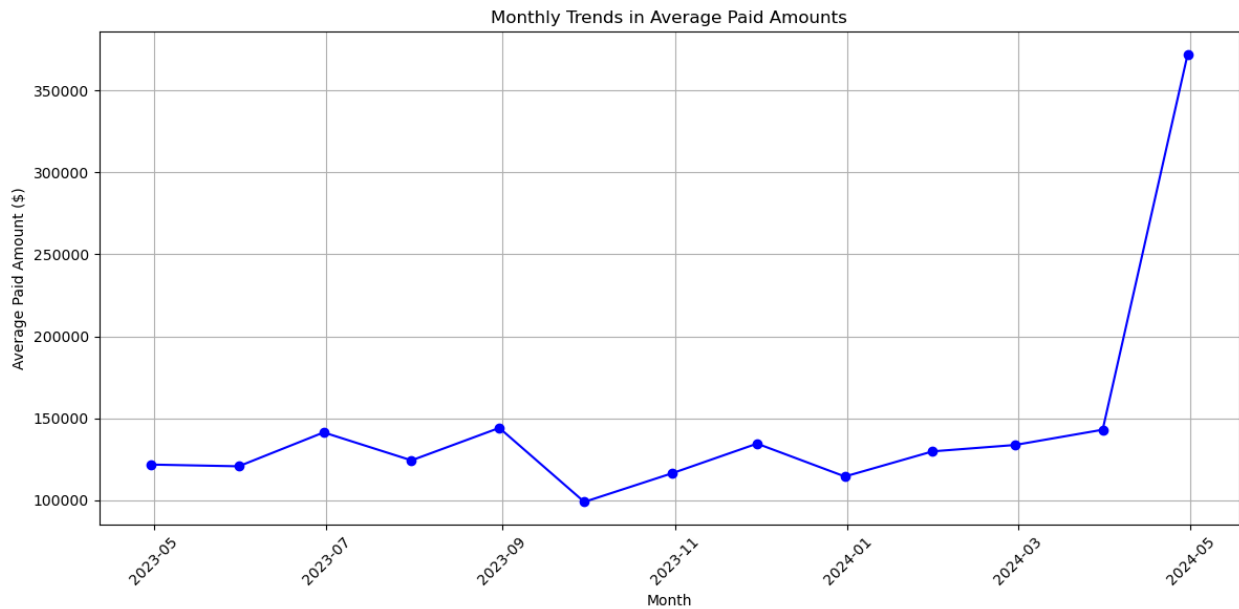
The bar chart displays the top 10 least costly procedures by average paid amount. These procedures likely represent routine or less complex medical interventions that are more cost-effective, potentially due to standardization or lower resource requirements.

This analysis of both the most and least costly diagnoses and procedures provides a comprehensive view of where healthcare spending is concentrated and where it is minimal, helping to inform strategic decisions about where cost reduction efforts might be most effective or least necessary.



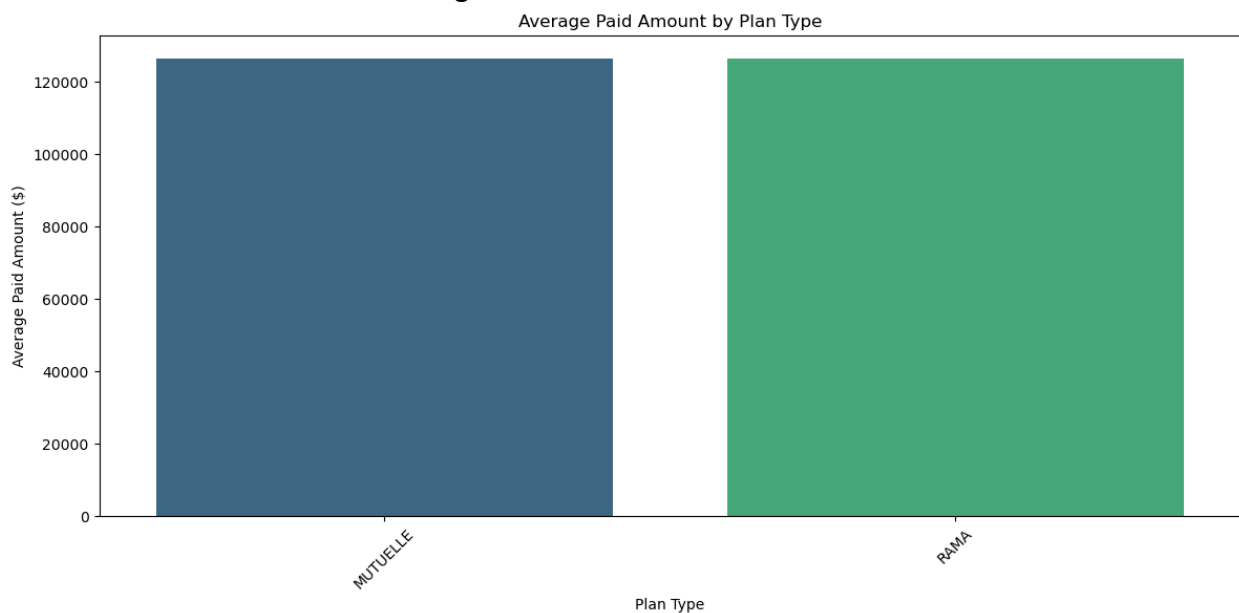
6. Montly Trends in Average Paid Amounts.

The line graph below shows the monthly trends in average paid amounts for medical claims. You can observe any seasonal variations or specific months where the costs peak, which might indicate periods of higher healthcare utilization or changes in billing practices.



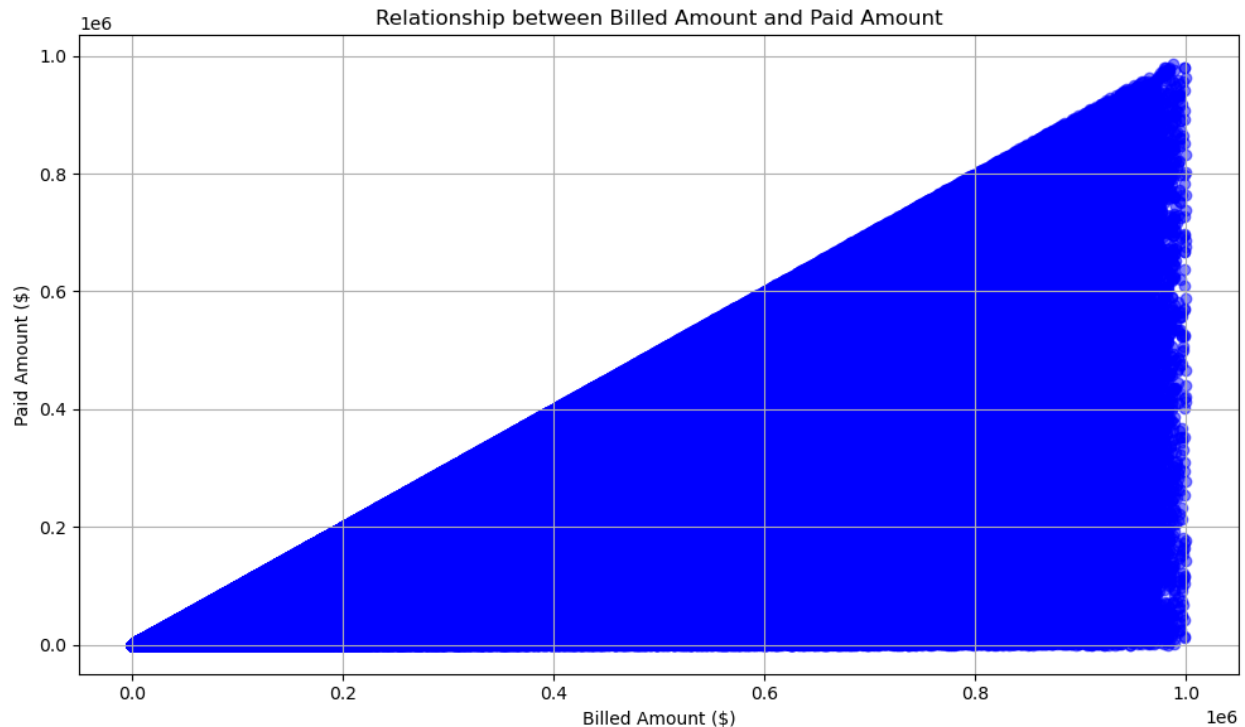
7. Average Paid amount by plan type

The bar chart below shows the average paid amounts by plan type, highlighting how costs vary across different insurance schemes. This can indicate which plans are more costly and may benefit from review or restructuring.



8. Relation between Billed and Paid amount.

The scatterplot below illustrates the relationship between billed amounts and paid amounts. It shows how the paid amounts relate to the billed amounts, which can give insights into the effectiveness of negotiations or billing accuracy.



Recommendations for Action:

1. Negotiate with High-Cost Providers:

- Engage healthcare facilities with above-average costs in rate negotiations to bring down prices.

2. Review High-Cost Diagnoses and Procedures:

- Conduct utilization reviews to ensure costly diagnoses and procedures are necessary and cost-effective.
- Consider alternative treatment protocols that are clinically sound yet more cost-efficient.

3. Targeted Disease Management Programs:

- Develop or enhance disease management programs for the costliest medical conditions to improve patient outcomes and reduce long-term costs.

4. Regional Analysis:

- Investigate the cause of geographical cost disparities, potentially focusing on regional healthcare policy and provider networks.

5. Demographic-Specific Strategies:

- Tailor health plans and intervention programs to demographics more likely to incur higher costs, particularly the older age groups.

Further Analysis Needed:

- **Time Series Analysis:** Complete the analysis of cost trends over time to identify seasonal patterns or trends that could inform budgeting and resource allocation.
- **Insurance Plan Review:** Deep-dive into how different insurance plan types impact costs to determine if plan restructuring may yield savings.

Conclusion:

This data-driven approach to analyzing healthcare costs provides actionable insights for cost management strategies. By focusing on identified areas, healthcare insurers can potentially reduce costs while maintaining quality care.